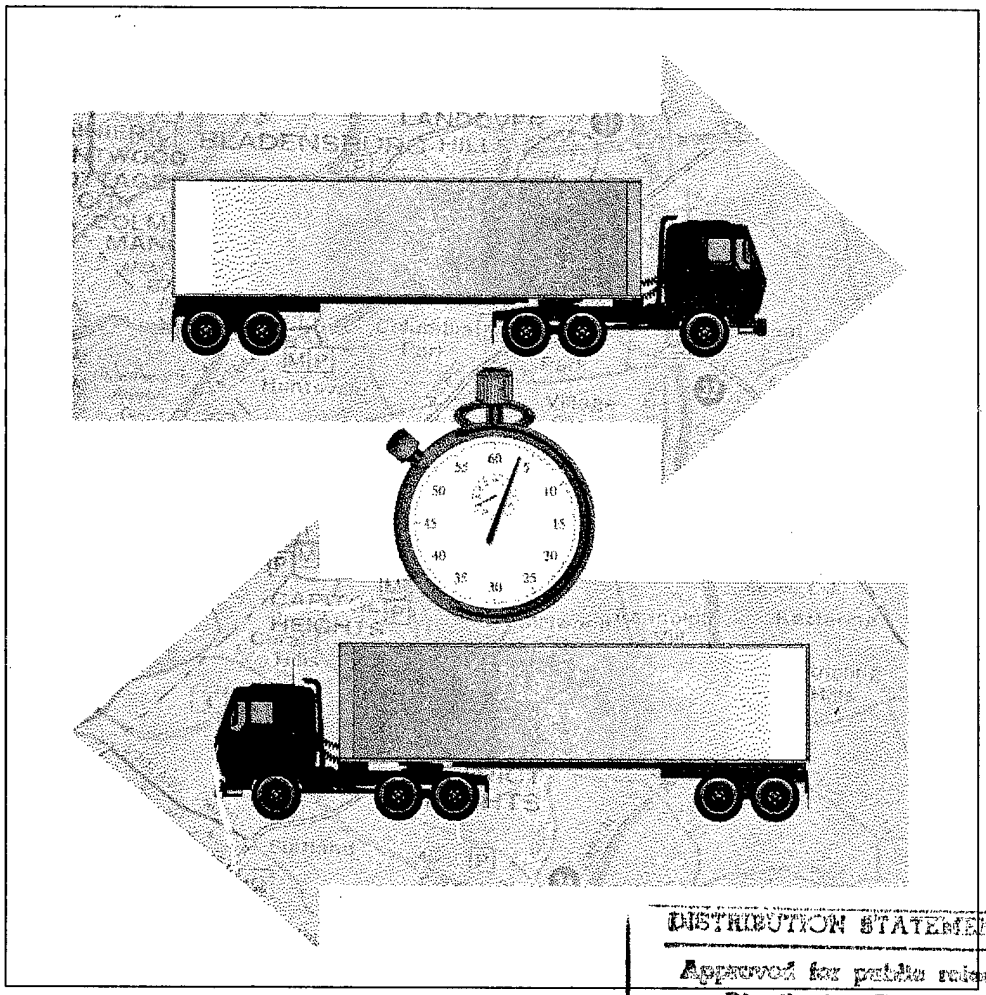
Logistics Management Institute

Reducing the Transportation Segment of Logistics Response Time

LG503MR1



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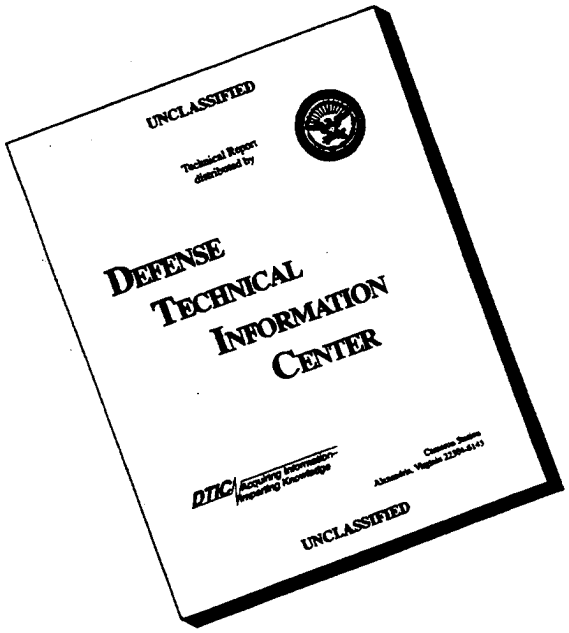

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February 1996

Edward T. Fortunato
John T. Eanes

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Executive Summary

The Department of Defense (DoD) is continuously seeking opportunities to improve the efficiency of its logistics operations. In concert with that thrust, the 1994 and 1995 editions of the *Department of Defense Logistics Strategic Plan* called for significant reductions in the logistics response time (LRT) for supply shipments destined for activities in the continental United States (CONUS). As one of the primary performance indicators of DoD's logistics system, LRT consists of the time required to submit, receive, and process a requisition; pick the items of supply; package them for shipment; hold for transportation; transport to the requisitioning activity; and receive and distribute the items to the requisitioner.

To ensure that its LRT objectives are satisfied, DoD established a LRT process action team (LRT PAT) to examine the issues associated with reducing LRT, identify opportunities for improvement, and formulate recommendations for change. The Assistant Deputy Under Secretary of Defense for Transportation Policy subsequently tasked LMI to support the LRT PAT's objectives by focusing on that transportation segment of LRT associated with the Defense Logistics Agency's (DLA's) wholesale freight traffic. This report presents our ideas for improving DLA's response times.

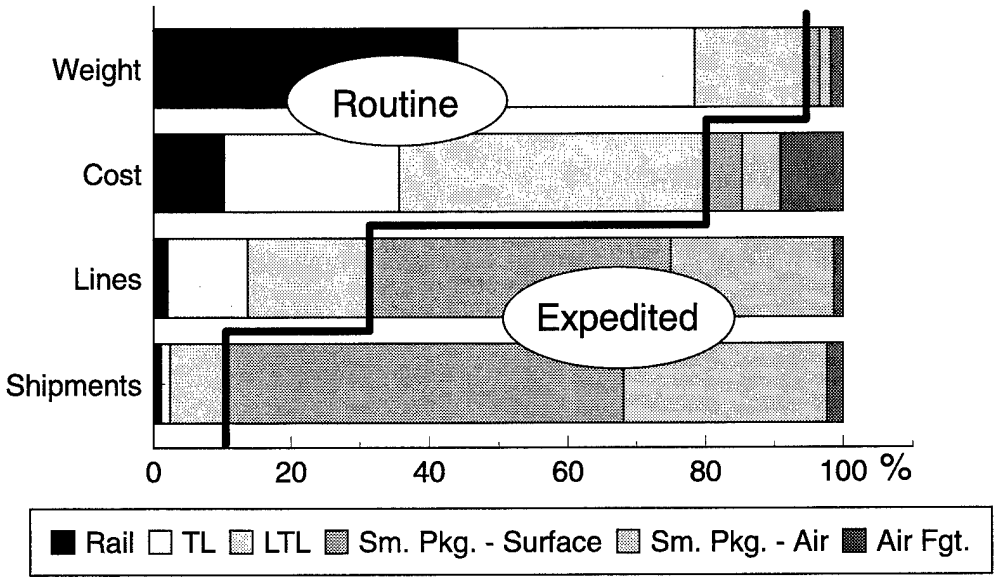
DLA SHIPMENT PROFILE

In FY94, DLA's CONUS freight shipments totaled approximately 3,413 million pounds and incurred $178,350,000 in transportation charges for rail; truckload; less than truckload (LTL); small package – surface, small package – air; and air freight services. Figure 1 shows that nearly 90 percent of those shipments were moved as small packages or air freight, while rail, truckload, and LTL shipments accounted for more than 95 percent of the weight and approximately 80 percent of the cost.

The transportation segment of LRT, transit time, is the amount of time required to move a shipment from its origin to destination. (The transit time for CONUS shipments reportedly averages about 6 days of the estimated 28 days LRT.)[1] The premium or expedited (and more costly) modes of transportation — small package shipments, either by surface or air, and air freight — offer the

[1] As reported to the LRT PAT.

shortest transit times. In contrast, the slower (and less expensive) modes are rail, truckload, and LTL. Table 1 shows transit times for each mode except for rail. The times for truckload and LTL shipments are based upon DoD experience, while the others are industry standards.



Note: TL = truckload.

Figure 1.
DLA Shipment Profile

Table 1.
Transit Times Over Distances by Mode

Mode	Transit time (in days)				
	Less than 451 miles	451 – 900 miles	901 – 1,500 miles	1,501 – 2,000 miles	More than 2,000 miles
Truckload[a]	1 – 3	3 – 4	4 – 5	5 – 6	6 – 8
LTL[a]	1 – 4	4 – 7	7 – 8	8 – 9	9 – 10
Small package – surface[b]	1 – 2	3	4	5	6 – 8
Small package – air[b]	1 – 2	1 – 2	1 – 2	1 – 2	1 – 2
Air freight[b]	1 – 2	1 – 2	1 – 2	1 – 2	1 – 2

[a] Derived from DoD's Freight Information System data.

[b] Industry standards.

Since nearly 90 percent of DLA's shipments are transported by small package or air freight carriers (Figure 1) and the majority of those shipments move less than 900 miles, DLA's transit times are typically 3 days or less (Table 1). As

a result, we conclude they are fundamentally good and present limited opportunities for improvement. Nonetheless, we identified two opportunities that warranted more analysis. DoD could move more items by faster modes (i.e., shift items from truckload or LTL to small package or air freight) or it could shorten average transit times within existing modes (i.e., establish more demanding transit time standards for carriers). The results of our analysis of these two opportunities are detailed below.

Expand Use of Premium Transportation

If DoD moved more items of supply by premium transportation modes, average transit times, and, therefore, LRT, would be shorter. In an effort to establish the potential impact of expanding the use of premium transportation modes, we focused on LTL shipments. We selected those shipments because they have relatively long transit times (see Table 1); they constitute a moderate segment of DLA activity (approximately 10 percent of the shipments and 20 percent of the lines); and they are most likely to comprise items that can be transported by small package (surface) carriers, the least costly of the three premium transportation modes.

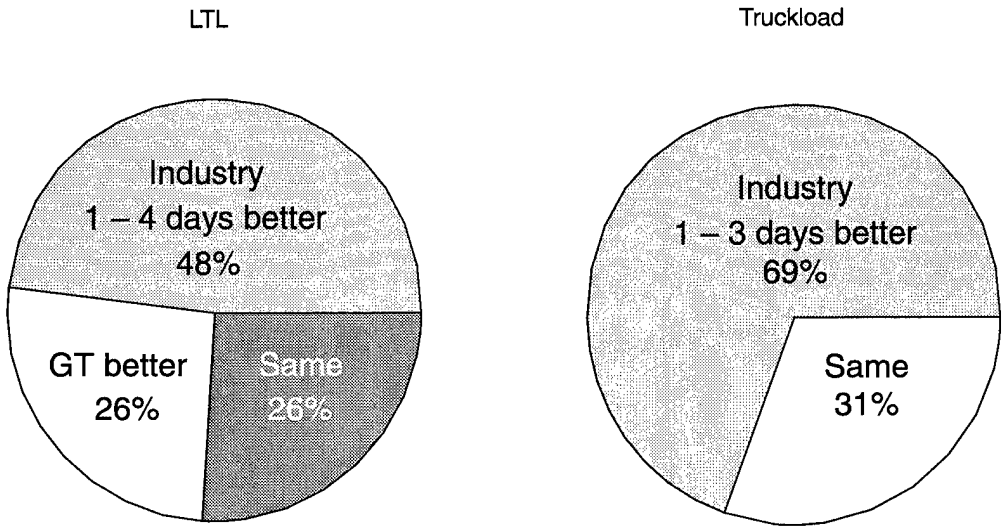
Based on the individual package characteristics of DLA's shipments, we believe that between 25 and 50 percent of the shipments that now move by LTL could be accommodated by current small package service weight and size restrictions. Those restrictions are 150 pounds per package and 108 inches in length or 130 inches in length and girth combined. We then examined the effect of having small package surface carriers move those items. Since most of the CONUS items that DLA ships via LTL are transported less than 900 miles (and experience transit times up to 7 days), we focused our analysis on those items. We found that if DoD shifted 25 to 50 percent of those items to the small package surface mode, the typical transit time for each would be shortened by 1 to 4 days. However, the cost of transporting the items could increase DLA's transportation costs by as much as 16 to 32 percent, or approximately $28 million to $56 million.

This analysis clearly suggests that expanding the use of premium transportation services is feasible but would result in shorter transit times for only a small percentage (less than 5 percent) of DLA shipments. In addition, the remaining LTL, truckload, and rail shipments are unlikely to be candidates for premium small package transportation because of size or weight restrictions.

Employ More Demanding Transit Time Standards

When benchmarking DoD's standards for transit times with those of commercial industry, we found that the latter are often more stringent. As an example, Figure 2 compares industry state-to-state transit time standards with those specified in guaranteed traffic (GT) agreements. [We obtained similar results when comparing industry standards to those in the Defense Traffic Management

Regulation (DTMR)]. Figure 2 shows that 48 percent of the commercial LTL transit time standards range from 1 to 4 days better (i.e., shorter) than the corresponding GT standards and 69 percent of the commercial truckload standards range from 1 to 3 days better than the corresponding GT standards. Not only are many commercial standards shorter than DoD's, but they are continuously improving because of the competition among carriers in the commercial marketplace.



Note: "Same" indicates that the commercial and GT standards are identical.

Figure 2.
Comparison of Industry and GT Transit Time Standards

This comparison of standards suggests that DoD should be able to systematically reduce many of its transit times at no additional cost by incorporating industry state-to-state transit time standards into both GT agreements and the DTMR, when industry standards are better than DoD standards. It also highlights the importance of DoD using consistent standards in GT agreements and the DTMR.

We believe that DLA and the Military Traffic Management Command (MTMC) could continuously improve DoD's transit times for all items of supply transported under GT agreements if they adopted new award procedures. Those procedures are described in the following section.

Pilot Test for Shortening Transit Time

Currently, DoD awards GT agreements solely on the basis of price; the carrier offering the lowest rates is awarded the traffic. All other performance

criteria, to include transit times, are prescribed in the agreement. This process could result in carriers with shorter transit times not being awarded GT agreements because their rates are slightly higher.

To correct this situation, we believe DoD should explore awarding GT agreements on the basis of best overall value to DoD, not just on the bid price. Consequently, we recommend MTMC and DLA develop a best-value GT agreement that requires carriers to propose both rates and transit times; the winning carrier would then be selected using both factors. The viability of this concept should be validated in a pilot test. The objectives of such a test would be to develop and refine procedures for ensuring continuous improvements in GT transit times, while obtaining the most competitive rates and thereby acquiring the best-value service.

The procedures should include the calculation of a best-value score using the following formula:

$$\text{Best-value score} = W_1(\text{cost}) + W_2(\text{transit time}),$$

where W_1 and W_2 are the weighted value of the cost and transit time variables, respectively. We suggest weighting the variables according to their relative importance. The carrier with the highest best-value score would then be awarded the traffic.

A pilot test of this concept would require MTMC and DLA to change both solicitation and operating procedures. In particular, it would require the two organizations to

- design an amended GT business process;
- develop and apply a best-value score;
- assess the legal implications of awarding GT agreements based on best value;
- broadcast the new process to industry representatives; and
- evaluate the effectiveness of the business process, solicitation, and carrier performance under the revised GT agreement.

Performance Data

As DoD places more emphasis on reducing LRT, its requirements for accurate and timely carrier performance information will increase. GT agreements now call for carriers to report on a weekly basis the actual delivery dates for each government bill of lading. Those data are then sampled for accuracy. In reviewing the data, we noted no widespread pattern of performance shortcomings. However, the manner in which DoD managers assess this information is

sporadic and inconsistent. Further, DoD managers are provided with data that are not very useful. In contrast, commercial shippers often require, and receive, substantially more useful performance information from their carriers, which suggests that DoD is not taking advantage of the carrier industry's capability to provide additional information. This situation could be readily corrected if more meaningful transportation performance data are requested from GT carriers. Therefore, we recommend that DoD incorporate procedures into the pilot test that require carriers to use their existing management information systems to provide DoD with better and more comprehensive performance data.

SUMMARY

Our analysis shows that nearly 90 percent of DLA's shipments are moving by premium transportation with most experiencing transit times of three days or less. Like industry, Defense transportation is embracing commercial carriers and techniques that assure responsiveness to customers. Nonetheless, we believe that further improvements are possible. While expanding the use of premium transportation has some potential, its additional cost needs to be offset by other improvements in logistics operations. The use of more demanding transit time standards offers DoD an excellent opportunity to obtain the same level of service that carriers are providing their commercial customers. To aid DoD in achieving shorter transit times, we recommend MTMC and DLA employ a pilot test to refine their GT procedures so that carriers submit both transit times and costs for proposed traffic. We further recommend that GT agreements be modified to require carriers to submit additional performance information for DoD shipments. We believe these actions will ensure continued improvement in logistics response times.

Contents

Illustrations

Tables

Reducing the Transportation Segment of Logistics Response Time

INTRODUCTION

Purpose

This report has been prepared at the request of the Assistant Deputy Under Secretary of Defense for Transportation Policy, who tasked LMI to benchmark industry transit time standards and identify opportunities for reducing the transportation segment of the Department of Defense's (DoD's) logistics response time (LRT). As one of the primary performance indicators of DoD's logistics system, LRT is defined as the time required to submit, receive, and process a requisition; pick the items of supply; package them for shipment; hold for transportation; transport to the requisitioning activity (the transportation segment); and receive and distribute the items to the requisitioner.

Background

The magnitude of the DoD's logistics requirements mandates a continuing search for maximum efficiency at reasonable cost. In keeping with that objective, the 1994 and 1995 editions of *Department of Defense Logistics Strategic Plan*, in an effort to reduce inventory, called for significant reductions in LRT for supply shipments destined for activities in the continental United States (CONUS). To meet that goal, DoD established an LRT process action team (LRT PAT) to examine the issues associated with reducing LRT, identify opportunities for improvement, and to formulate recommendations for change. This report supports the objectives of the LRT PAT by focusing on the transportation segment of LRT associated with the Defense Logistics Agency's (DLA's) wholesale freight traffic.

Approach

We began our analysis of the transportation segment of LRT by developing a profile of DLA transportation, focusing on the amount of freight being shipped, the length of transit times, and the modes of transportation that it is using. We then used that profile to identify the transportation modes that offer the best opportunities for reducing DLA's transit times, primarily by assessing the impact of expanding the use of premium modes of transportation.

We also addressed the transit times that DoD was requiring of the transportation industry. In particular, we reviewed the delivery standards specified in

the Defense Transportation Management Regulation (DTMR), 31 July 1986, and in guaranteed traffic (GT) agreements at four DLA depots: Defense Depot Region West (DDRW); Defense Depot Columbus, Ohio (DDCO); Defense Depot Richmond, Virginia (DDRV); and Defense Depot Susquehanna, Pennsylvania (DDSP). We then assessed the consistency of the DTMR and GT standards, and benchmarked them with the standards that truckload and less-than-truckload (LTL) carriers offer their commercial customers. These comparisons suggested some opportunities for reducing DoD's transit time standards and ensuring the use of consistent standards in the DTMR and GT agreements.

Seeking an additional method to improve transit times, we developed a best-value concept for awarding GT agreements that focuses on best value (transit time and cost), rather than just on low cost.

Finally, we benchmarked the processes that DoD's depot transportation offices use to monitor carrier performance with those of several large commercial shippers. These comparisons indicated that DoD can enhance the way it measures carrier performance.

DLA Shipment Profile

Although DLA uses all modes of transportation to move freight, most (by both weight and cost) is transported by truck under GT agreements with commercial carriers.[1] GT agreements are instruments used to move truckload and LTL traffic from DLA depots to 11 geographical regions; they are also used for point-to-point movements within CONUS. The agreements include performance standards for state-to-state transit times and on-time deliveries that carriers are expected to meet. The DTMR provides similar standards for DoD shipments moving under other arrangements.

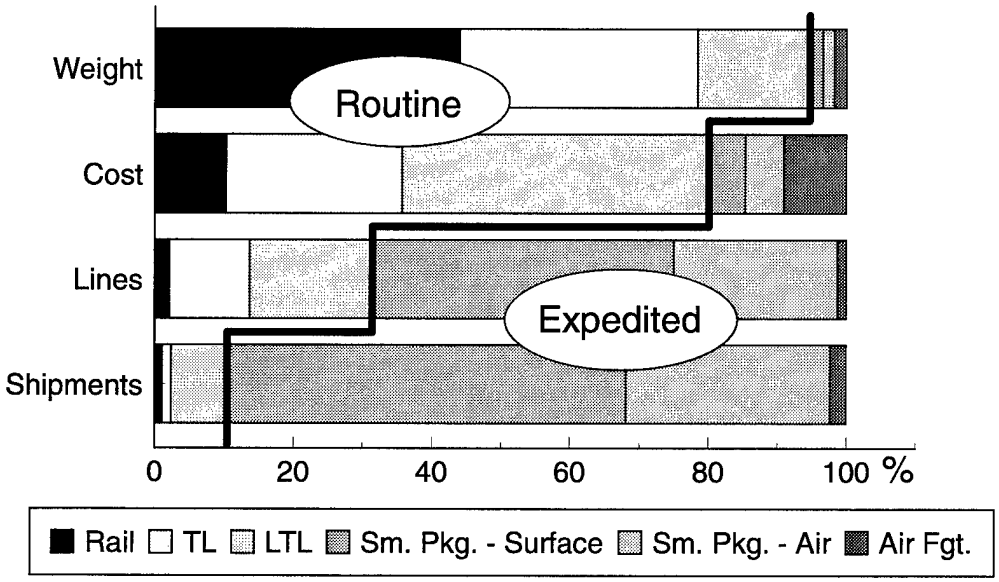
In FY94, DLA's CONUS freight shipments totaled approximately 3,413 million pounds and incurred $178,350,000 in transportation charges for rail, truckload, LTL, small package – surface, small package – air, and air freight services.

As shown on the right side of the jagged line in Figure 1, the premium (and generally highest cost) or expedited transportation modes are the small package services and air freight. The nonexpedited (and less expensive) routine modes are truckload, LTL and rail; they are shown on the left side of the jagged line.

Figure 1 shows that nearly 90 percent of DLA shipments were moved as small packages or air freight. These shipments constitute Issue Priority Group (IPG) 1 and 2 (high priority) items and IPG 3 (routine priority) items that moved via premium transportation because of their small size and light weight. It

[1]The Military Traffic Management Command (MTMC) administers DoD's GT program.

further shows that rail, truckload, and LTL shipments accounted for more than 95 percent of the weight and approximately 80 percent of the cost.



Note: TL = truckload.

Figure 1.
DLA Shipment Profile

As Table 1 shows, the premium or expedited (and more costly) modes of transportation — small packages and air freight — offer the shortest transit times. Since most DLA shipments are transported fewer than 900 miles, and nearly 90 percent of those are moved as small packages or by air freight, transit times of 3 days or less are common. In contrast, the slower, less costly, modes are rail, truckload, and LTL. Table 1 shows that those modes (other than rail) have transit times of 7 days or less for shipments traveling less than 900 miles. The transit times for truckload and LTL shipments are based upon DoD experience, while the others are industry standards.

Conclusion: Given that 90 percent of DLA shipments move via small packages and air freight with transit times of 3 days or less, we conclude DLA's current transit response times are fundamentally good.

Nonetheless, during our investigations, we identified two opportunities that could lead to better response times. The opportunities are addressed in the following section.

Table 1.
Transit Times Over Distance by Mode

Mode	Transit time (in days)				
	Less than 451 miles	451 – 900 miles	901 – 1,500 miles	1,501 – 2,000 miles	More than 2,000 miles
Truckload[a]	1 – 3	3 – 4	4 – 5	5 – 6	6 – 8
LTL[a]	1 – 4	4 – 7	7 – 8	8 – 9	9 – 10
Small package — surface[b]	1 – 2	3	4	5	6 – 8
Small package — air[b]	1 – 2	1 – 2	1 – 2	1 – 2	1 – 2
Air freight[b]	1 – 2	1 – 2	1 – 2	1 – 2	1 – 2

[a] Derived from DoD's Freight Information System data.

[b] Industry standards.

Opportunities for Reducing Transit Time

In this section, we examine two alternatives for reducing DoD's transit times. DoD could move more items by faster modes (i.e., shift items from truckload or LTL carriers to small package or air freight carriers). It could also shorten average transit times within existing modes (i.e., establish more demanding transit time standards for carriers). Our examinations of these alternatives are presented below.

Expand Use of Premium Transportation

If DoD moved more items of supply by premium transportation modes, average transit times, and, therefore, LRT, would be shorter. The next step would be to decide which shipments are practical candidates for premium transportation. We believe LTL shipments are practical candidates because they have relatively long transit times (see Table 1); they constitute a moderate segment of DLA activity (approximately 10 percent of the shipments and 20 percent of the lines); and they are most likely to comprise items that can be transported by small package (surface) carriers, the least costly of the three premium transportation modes.

Based on the individual package characteristics of DLA's shipments, we estimate that between 25 and 50 percent of the packages consolidated for movement by LTL (to reduce costs), could fit within the current small package service weight and size restrictions. Those restrictions are 150 pounds per package and 108 inches in length or 130 inches in length and girth combined. Since most of the items that DLA ships via LTL within CONUS are transported less than 900 miles (and experience transit times up to 7 days), we focused our analysis on those items. We found that if DoD shifted 25 to 50 percent of those items to the small package surface mode, the typical transit time for each would be shortened

by 1 to 4 days. However, the cost of transporting those items could increase DLA's transportation costs by as much as 16 to 32 percent, or approximately $28 million to $56 million.

The primary reason for this significant cost increase is the difference in rates. The rates for small package surface shipments are typically higher than LTL rates. In addition, many of the items moving by LTL are heavier than normal small package shipments and would incur higher costs when shipped by small package service. Although the projected increase in cost could be offset by other improvements in DoD's logistics operations, such as smaller inventories for the items moved more expeditiously, expanding the use of premium transportation would result in shorter transit times for only a small percentage (less than 5 percent) of DLA shipments. Further, most of the remaining LTL, truckload, and rail shipments are unlikely to be good candidates for small package premium transportation because they exceed the weight and size restrictions. (Other elements of the LRT PAT are examining the issues associated with trading off LRT improvements with lower inventories.)

Conclusion: Expanding the use of premium transportation will reduce DoD's transit times for a small segment of shipments, but also increase its transportation costs.

Employ More Demanding Transit Time Standards

Competition in the Commercial Marketplace

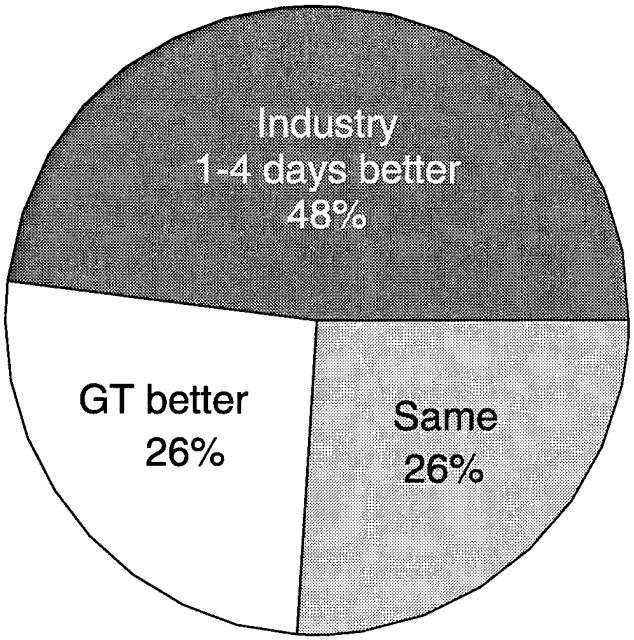
The commercial transportation industry is exceptionally competitive, both within and between modes. This competition is particularly acute for LTL carriers because they have been losing marketshare to small package carriers. As a result, LTL carriers are striving to reduce their transit times so they can become more competitive. To illustrate, within the past year, three large LTL carriers have announced major changes in their operations that are expected to shorten transit times over many of their routes by as much as two days. These changes include streamlining terminal networks to minimize handling, eliminating hubs, changing from a wait-to-fill to a dedicated delivery schedule, and using two-person driver teams to speed inter-city movements west of the Mississippi river. Additionally, many regional LTL carriers are now offering one- to two-day service within large geographical areas.

In an attempt to benchmark the transit times that DoD receives from commercial carriers against transit times that industry receives from these same carriers, we compared DoD transit time requirements (as expressed in GT agreements) against transit times that carriers publish. Our analysis focuses on both LTL and truckload and is discussed below.

LTL Shipments

Any comparison between industry and DoD transit time standards for LTL shipments is judgmental because they use different standards. LTL carriers count only business days in their transit times, excluding weekends and holidays. In contrast, DoD measures transit times as the number of elapsed calendar days, not including six major holidays. To facilitate a comparison of industry and DoD standards, we converted business days into equivalent business days. Our conversion process is described in Appendix A.

Large LTL carriers routinely publish their state-to-state transit time standards as a means of advertising their competitiveness. In an attempt to benchmark DoD's standards with those being advertised by LTL carriers, we compared the transit time standards of four major commercial LTL carriers with those specified in four of DLA's GT agreements. The results of that comparison, which are summarized in Figure 2, show that 48 percent of the carriers' transit times are up to 4 days shorter than the standards in GT agreements, the standards in the GT agreements are better than 26 percent of the carriers' transit times, and the carriers' equal the GT standards for the remaining 26 percent.



Note: State-to-state transit time standards of four LTL carriers compared to four GT agreements (746 state-to-state pairs in sample).

Figure 2.
Comparison of Carrier and GT LTL Standards

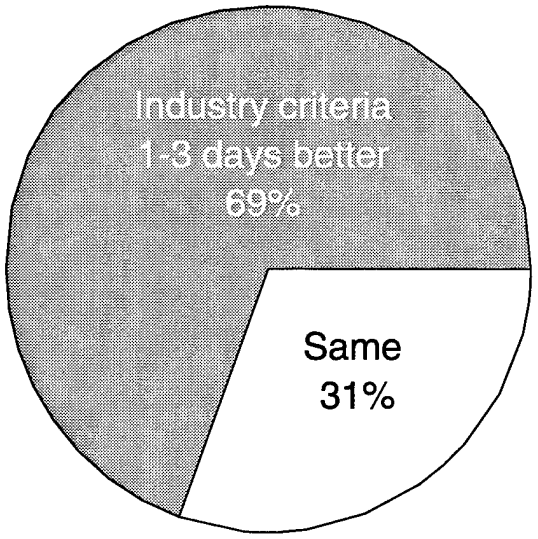
As we reviewed one specific GT agreement, we observed that one carrier was selected as a primary or alternate carrier for freight traffic to 37 of 48 states. That carrier's transit time standards were better for 41 percent of the state-to-state pairs than those specified in the GT agreement. In addition, the carrier also committed to meeting GT standards that were more demanding than its own standards for 24 percent of the state-to-state pairs.

Conclusion: The vast majority of DLA's LTL shipments move under GT agreements and the LTL transit time standards in these agreements can be reduced.

Truckload Shipments

Truckload carriers normally do not publish standards. Nonetheless, when we queried them about transit times, they responded that transit times are independently negotiated. They also cited the Department of Transportation's safety restriction of 10 hours per day for a single driver and a rule of thumb of 500 miles per day as the primary basis for negotiating transit times.

As a means of comparing DoD's truckload transit time standards with the 500-mile per day criterion, we sampled the standards in 2 GT agreements for shipments originating in Virginia and Pennsylvania and destined for 48 states and the District of Columbia. Figure 3 shows that 69 percent of the sampled GT state-to-state pairs were not achieving 500 miles per day. The remaining 31 percent of the GT standards were identical to those obtained by applying the 500-mile per day criterion. Appendix B provides the details of this analysis.



Note: DDSP and DDRV GT agreements only.

Figure 3.
Comparison of 500-Mile Per Day Criterion to GT Truckload Transit

Conclusion: The transit time standards in GT agreements for truckload shipments can be made more stringent.

GT Agreements and DTMR Transit Time Standards

DoD provides transit time standards in two primary documents — GT agreements and the DTMR. In assessing the consistency of those standards, we compared the LTL and truckload standards in the four GT agreements cited earlier with those in the DTMR.

This comparison shows that the transit time standards in GT agreements are more stringent than those in the DTMR at two of the DLA depots (DDSP and DDRW) and less demanding at the other two depots (DDRV and DDCO). Figure 4 further shows that all DDRW and DDSP GT standards are equal to or more demanding than those in the DTMR, while the DDCO and DDRV standards are less demanding approximately 74 percent and 78 percent of the time, respectively. These findings indicate considerable inconsistency in transit time standards among the four GT agreements and between those agreements and the DTMR.

One of the primary benefits of GT agreements is that they give DoD shippers the ability to customize their carrier support. However, when we queried shippers about their transit time standards, they were often unaware of the differences among the GT agreement standards, those in the DTMR, and the carrier's published standards. In fact, many of the standards in GT agreements are based upon those in previous agreements, with the shippers assuming that MTMC would adjust them if they were faulty. Discussions with MTMC representatives revealed that the GT solicitations are designed to satisfy the shipper's requirements, so they normally do not question the requested standards.

In developing a GT agreement, one could logically argue that the DTMR standards should serve as a starting point. The DTMR standards should then be adjusted to reflect the current realities of the competitive marketplace, with all GT standards equal to or more stringent than those in the DTMR, with all less stringent standards thoroughly justified.

Conclusion: The transit time standards in the DTMR need to be updated routinely so they more accurately reflect the services available from commercial carriers.

Conclusion: The approach used to establish transit time standards in GT agreements is inconsistent.

Conclusion: The transit time standards in the DTMR and GT agreements need to be more consistent.

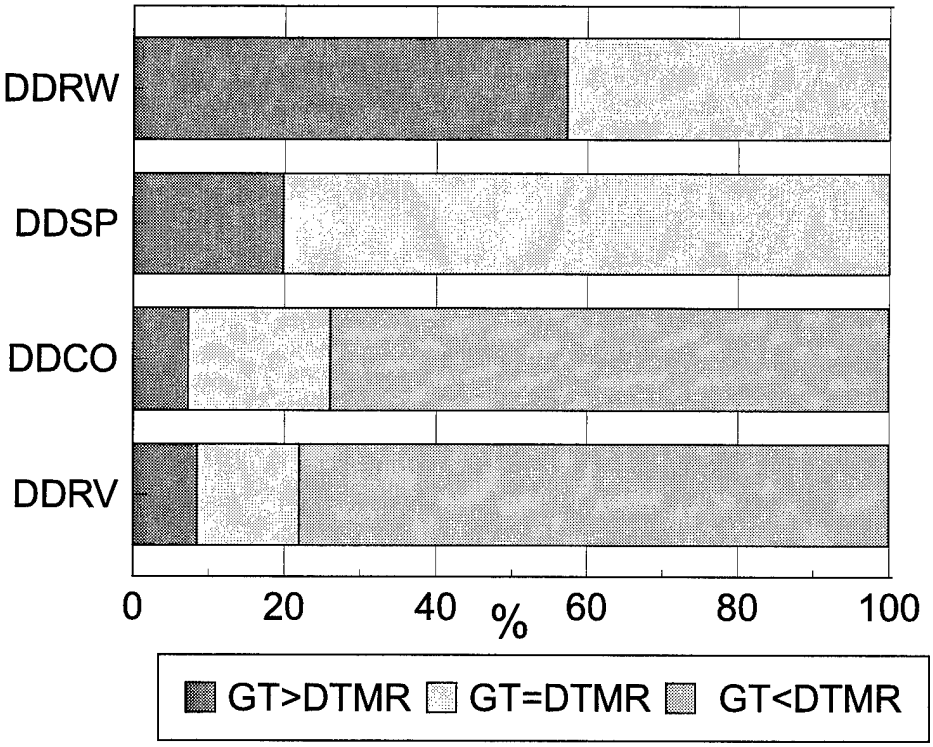


Figure 4.
Comparison of DTMR and GT Standards (Truckload and LTL)

On-Time Delivery Standards

In addition to transit time standards, GT agreements and the DTMR also specify on-time delivery standards for carriers. Most GT agreements call for 95 percent on-time delivery, while the DTMR is less demanding. It implies a standard of 85 percent in paragraph 20-3, which states

> When a carrier has exceeded the established transit time on more than 15 percent of the shipments tendered to that carrier from one activity, the TO [Transportation Office] should report the poor transit time to the serving MTMC area command. . . .

These on-time delivery standards are not only inconsistent, but they are often at odds with those used by many commercial shippers. As an example, some commercial shippers have delivery-day windows of one to three hours or the delivery is considered late. The use of such standards stems from shippers moving to just-in-time logistics operations. In addition, shippers are often demanding and receiving 98 percent and higher on-time delivery service. Some LTL carriers are even advertising on-time delivery rates above 95 percent.

Building upon those commercial practices, a 7 March 1995 GT solicitation for DDCO specifies a 98 percent on-time delivery requirement, which is DoD's highest. Although the effectiveness of the higher standard is uncertain at this

time, it is a prudent step toward challenging carriers to provide improved service. Its effect should be closely monitored to determine if it has merit for future GT agreements.

Conclusion: The on-time delivery standards in GT agreements and the DTMR should be made consistent and the DTMR standard is too lenient.

Impact of Improved Transit Time Standards

To determine the potential impact of using updated (more stringent) transit times, we prepared hypothetical transit time tables for two DLA depots, DDRV and DDSP. We found that moderate improvements could be made to many of the state-to-state standards, as Figure 5 shows. (Since the LTL and truckload comparisons were similar, the results shown in Figure 5 are based upon both LTL and truckload standards.) Appendix C provides the details supporting our analysis. DDSP, a depot that uses stringent transit time standards, would need to upgrade approximately one-third of its state-to-state standards. In contrast, DDRV, a depot with less demanding standards, would need to upgrade more than 95 percent of its standards.

In spite of these promising findings, we need to recognize that improvements to standards do not automatically equate to better transit times. When an LTL shipment is picked up by a carrier, it tends to move in the carrier's normal system. With the LTL carrier industry's recent emphasis on shorter transit times, DoD is already benefiting from industry improvements because some shipments are being delivered quicker than required in the GT agreement. A review of recent delivery data provided by one LTL carrier showed that 74 percent of its deliveries from DDRV to Texas, Kansas, and New Mexico arrived earlier than the GT desired delivery date. This level of service was consistent with the carrier's published transit times.

From another perspective, however, truckload carriers often pickup shipments late but deliver them on time, which indicates that the associated GT standards could be shortened. This practice further suggests that setting more stringent standards for truckload shipments could result in greater transit time savings than for LTL shipments.

Conclusion: Improved transit time standards will result in modest reductions in actual transit times.

To assure that DoD reaps the benefits of a competitive marketplace that continuously strives for faster transportation response times, we explored incorporating best-value procurement techniques into the GT award process. The next section addresses this issue.

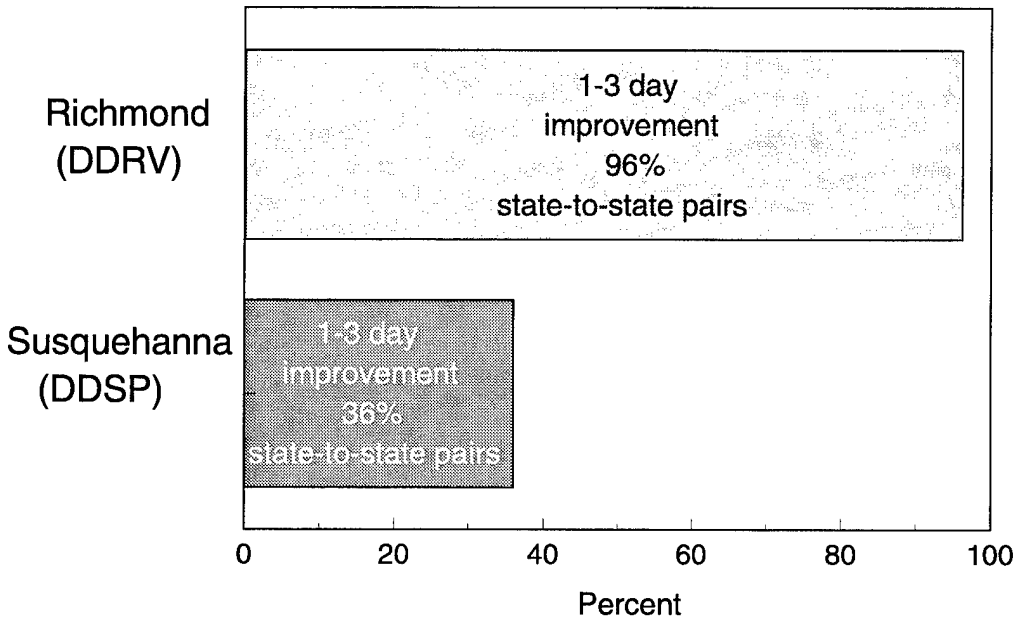


Figure 5.
Potential Improvement to GT Transit Time Standards

BEST-VALUE GT PILOT TEST

Overview

In this section, we present the concept of DoD using a best-value approach for awarding GT agreements and discuss validating the concept through a pilot test.

As noted previously, DLA awards GT agreements solely on the basis of price — the carrier offering the lowest rates is awarded the traffic. All other performance criteria, to include transit times and percent of on-time delivery, are prescribed in the agreement. This process can result in carriers with shorter transit times not being awarded traffic because their rates are slightly higher.

Instead of prescribing transit times in GT agreements, we believe MTMC and DLA should develop a best-value GT agreement that calls for carriers to propose both their rates and transit times. The selection decision would then be based on both factors. The focus on best value is consistent with that now in use by many shippers in the commercial sector and supports the Vice President's *Report of the National Performance Review.*

Measuring Best Value

The procedures for evaluating best-value tenders for freight service will be complex and require careful management. We propose that it be accomplished using a best-value score that is computed by the following formula:

$$\text{Best-value score} = W_1 \text{ (cost)} + W_2 \text{ (transit time)},$$

where W_1 and W_2 are the weighted value of the cost and transit time variables, respectively. The highest scoring carrier for each region would then be selected as the primary carrier for that traffic. In applying best values, MTMC and DLA need to address the following considerations:

- *Assigning weighted values.* The selection of a weighted value for each variable is critical. Those values ensure the appropriate balance and attainment of best value, and an orderly evaluation of carrier tenders. DLA, in consultation with MTMC, should assign the relative value of each variable, such as "X" percent for cost and "Y" percent for transit times. An expert opinion process could be used in making this subjective decision.

- *Selecting a measurement for each variable.* MTMC and DLA will need to decide how to measure the cost and transit time variables in order to compare the carriers' submissions. The following measurement criteria could apply.

  - Cost should be the estimated total cost of the projected traffic for each region. It should be computed from the tendered rates that the carriers bid on the GT rate sheet. The basis of value assignment could be a percentage deviation from the low-cost bid. The low-cost bid would be assigned 100 points, all others would be assigned fewer points. The points for the higher cost carriers would be computed by dividing each carrier's bid into the low bid and multiplying the results by 100.

  - Transit time should be the average transit time (expressed in days) for the region tendered. The basis of value assignment should be the fastest average transit time tendered, i.e., the fastest time would be assigned 100 points. All other average transit times would be less than 100 points. The points for the slower carriers would be computed by dividing each carrier's average transit time into the fastest carrier's average time and multiplying the results by 100.

An example of a best-value computation and carrier selection process is shown in Appendix D.

Pilot Test

We believe a best-value approach to awarding GT agreements could have a significant impact on reducing transit times. In order to assess the effects of such

an effort, we propose that MTMC and DLA undertake a pilot test. In such a test, MTMC and DLA would design a best-value index; amend the GT business process; broadcast the new requirements to industry representatives; and evaluate the effectiveness of the business process, solicitation, and carrier performance under the best-value GT agreement. Of course, all of these actions must be accomplished within statutory requirements. A proposed implementation plan for a best-value GT pilot test is shown in Appendix E.

Conclusion: A pilot test of awarding GT agreements based upon best value should identify whether transit times can be continually improved at competitive costs.

Measuring Carrier Performance

Although we found no widespread evidence that carriers are not meeting the delivery requirements in GT agreements, we believe that DoD's methods for measuring carrier performance under GT agreements need to be improved, especially if transit time standards are made more stringent.

Historically, DoD has not had a strong carrier performance measurement program. As a result, much of the DoD logistics community believes that transit time data are not very accurate. This perception stems primarily from DoD's ineffective data reporting practices.

MTMC uses the Freight Information System to monitor transportation activity and costs. However, that system was not intended to be used as a tool for monitoring carrier performance. Under GT agreements, depots typically receive little delivery information from consignees unless they submit transportation discrepancy reports (TDRs). DoD shippers provide their carriers with weekly lists of government bills of lading (GBLs) that the carriers moved. The carriers are then required to list delivery dates for those GBLs. To verify the carrier's data, a shipping depot can request a carrier to submit signed receipt documents for up to 15 percent of the GBLs.

Along with receiving limited carrier performance data, measurement of carrier transit times is not a high priority for DoD's transportation offices. Some offices rigorously verify deliveries, while at others it is performed on an exception basis, often triggered by the receipt of a TDR or a complaint.

As previously noted, the trucking industry is highly competitive, with many of the carriers augmenting their competitive rates and transit times by offering additional services. These services include providing detailed transportation information to shippers. Many carriers will share this information with shippers and provide additional information if required. In addition, some commercial shippers (including Malcolm Baldridge National Quality Award recipients) have transferred full responsibility for collecting and summarizing carrier performance data (and the associated cost) to carriers simply by including their requirements in the contracts. As mentioned earlier, GT agreements require carriers to

report on GBLs delivered, so there already is a instrument that DoD could use to require additional information from the carriers.

Given that DoD proceeds with a best-value pilot test that considers transit times in awarding GT agreements, we believe this test should also encompass a program that requires carriers to use their existing management information systems to provide DoD with comprehensive reports on their transit time performance. These same practices exist in industry and the pilot test could help DoD to take advantage of them.

The pilot test would enable DoD to establish its new performance measurement requirements. We suggest the following minimum data be provided

- actual delivery date for each GBL, with an explanation for late deliveries;
- monthly summaries of number of GBLs and percent delivered early, on-time, and late as measured against the GT standard for each DoD delivery location, and as a total; and
- number of GBLs early and late, arrayed by range of days, e.g., the number that are one day late, two days late etc. for each DoD delivery location, and as a total.

RECOMMENDATIONS

Based on our analysis, we believe that DoD can reduce the transportation segment of LRT by taking the actions discussed below.

Recommendation: Develop a systematic approach for incorporating competitive transit time standards in GT agreements.

Such an approach should include DLA, in concert with MTMC, requiring its depots to select stringent transit times for each state-to-state pair in GT agreements. Those transit times should be based upon published carrier standards, DTMR standards, and GT agreements when new agreements are being prepared. This practice would ensure consistency between the standards offered commercial shippers and those in GT agreements and the DTMR.

Recommendation: Formulate a methodology for routinely updating the transit time and on-time delivery standards in the DTMR and for maintaining consistency between GT and DTMR standards.

This methodology should consist of MTMC publishing updated DTMR standards and then requiring all future GT agreements to meet or exceed those standards. It also should include MTMC routinely revising standards in the DTMR based upon the most recent GT agreements. We suggest that MTMC establish a minimum on-time delivery standard of 95 percent. In addition, all revised standards should be incorporated into the United States Transportation

Command's Defense Transportation Regulation that is currently under development.

Recommendation. Conduct a pilot test of awarding GT agreements based upon the best value offered DoD.

In this pilot test, MTMC and DLA should require carriers to submit both their transit times and rates. A best-value score should then be used to assess the transit time and cost variables and select the best-value carrier, rather than using just the low-cost bid carrier.

Recommendation: Incorporate into the pilot test procedures that require carriers, using their existing management information systems, to provide DoD with better and more comprehensive performance data.

SUMMARY

Although nearly 90 percent of DLA's shipments are moving by premium transportation with transit times of 3 days or less, we believe that further improvements are possible. While expanding the use of premium transportation has some potential, its additional cost needs to be offset by other improvements in logistics operations. The use of more demanding transit time and on-time delivery standards offers DoD an excellent opportunity to obtain the same level of service that carriers are providing their commercial customers. To aid DoD in reaping shorter transit times, we recommend MTMC and DLA employ a best-value pilot test to refine their GT procedures such that carriers submit both transit times and costs for proposed traffic. We further recommend that the test incorporate procedures that require carriers to submit additional performance information for DoD shipments. We believe these actions will help DoD improve its LRT.

APPENDIX A

Calendar Days Versus Business Days

The industry standard for computing transit time is the number of business days excluding weekends and holidays. In contrast, the Department of Defense (DoD) uses calendar days as its transit time standards in guaranteed traffic agreements and the Defense Transportation Management Regulation, exempting only six principal holidays — New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. DoD shipments with transit times that require delivery on nonbusiness days must be delivered on the next business day to be considered on time.

These different standards complicate any comparison of DoD and industry transit times. To facilitate such a comparison, however, we developed a model for estimating average weekend day factors for various lengths of transit times. These factors indicate the average number of weekend days that are likely to occur. When added to business days, they yield equivalent business days.

Table A-1 illustrates the use of our model for weekly shipments requiring six transit days. The model compares the days in transit associated with shipments from a depot. The body of the table indicates the activity occurring on a particular day. Total days are counted from left to right starting with the first transit day and ending with the delivery day. The number of days required under both methods are then compared and the difference noted in the column on the right. The average of these daily differences is the average number of weekend days associated with shipments that require delivery within six business days.

To illustrate the use of this model, the best case is found at the top of Table A-1, where we see that a shipment picked up on Monday, transiting in six calendar days (using the DoD calendar-day standard) arrives on Sunday and waits for a Monday delivery. The same shipment, however, if given the same number of business days (with no movement during the weekend) would be delivered on Tuesday — one day later than the shipment moved under a calendar-day standard. The worst case shipment is a Friday pickup, shown at the bottom of Table A-1. Under a calendar-day standard, it would be delivered on the following Thursday. The same shipment, under a business-day standard, would encounter two weekends resulting in an additional four days transit time.

Table A-1.
Computing Average Weekend Day Factors for Six-Day Transit Times

Standard	Day of week															Difference: calendar less business	Factor
	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M		
Calendar	P	X	X	X	X	X	A	D								1	
Business	P	X	X	X	X	—	—	X	D								
Calendar		P	X	X	X	X	X	D								2	
Business		P	X	X	X	—	—	X	X	D							
Calendar			P	X	X	X	X	X	D							2	
Business			P	X	X	—	—	X	X	X	D						
Calendar				P	X	X	X	X	X	D						2	
Business				P	X	—	—	X	X	X	X	D					
Calendar					P	X	X	X	X	X	D					4	
Business					P	—	—	X	X	X	X	X	—	—	D		
Total days difference																11	
Average																11 / 5 =	2.2

Legend:

P = Pickup day
X = Transit day
— = Nonbusiness day
A = Arrived / awaiting delivery
D = Delivery day

Separate models were constructed to reflect shipments requiring different numbers of transit days. Computations for 1 through 11 transit days were made and the average weekend day factors are shown on Table A-2. It also depicts the conversion of business days to equivalent business days using the factor.

Table A-2.
Weekend Day Factors: The Comparison of Business Days to Calendar Days (DoD Standard)

Calendar days	Business days	Weekend day factor	Equivalent business days [a]
1	1	0	1
2	2	0.2	3
3	3	0.6	4
4	4	1	5
5	5	1.4	7
6	6	2.2	9
7	7	2.8	10
8	8	2.8	11
9	9	3	12
10	10	3.4	14
11	11	3.8	15

[a] Business days plus weekend day factor, rounded to next whole day.

APPENDIX B

Analysis of the 500-Miles Per Day Criteria

To accommodate a comparison between Department of Defense (DoD) transit time standards for truckload shipments with a notional 500-miles per day criteria, we formed a standard mileage table from two Defense Logistics Agency depots — Defense Depot, Richmond, Virginia (DDRV); and Defense Depot, Susquehanna, Pennsylvania (DDSP) — to each CONUS state and the District of Columbia. Destination locations within each state were the farthest major military installation or population center, which would ensure adequate transit times for any location throughout the state. The official point-to-point mileage between DDRV and DDSP and those locations was derived from Army Regulation 55-60, Official Table of Distances, and Rand McNally's Road Atlas.

After completing the standard mileage table, we computed the transit time for each depot location combination, using the 500-miles per day criteria. We also determined the transit time standards in guaranteed traffic (GT) agreements that those depots use to the same locations, along with the state-to-state standards in the Defense Transportation Management Regulation (DTMR). Table B-1 summarizes our comparison of the 500-mile criteria and the standards in GT agreements, while Table B-2 summarizes the results of a similar comparison between the 500-mile criteria and the DTMR standards. Tables B-3 and B-4 provide additional detail.

Table B-1.
500 Miles Per Day vs. GT Truckload Standards

Depot	Standard	Percent of state-to-state combinations where 500-mile criteria is less than, equal to, or better than GT transit time standards			Range of improvement using the 500-mile criteria	Average improvement using the 500-mile criteria
		Less	Equal	Better		
DDRV	GT	0	0	100	1 – 3 days	2 days
DDSP	GT	0	61	39	1 – 3 days	1.3 days
Average	—	0	30.5	69.5	1 – 3 days	1.6 days

Table B-2.
500 Miles Per Day vs. DTMR Truckload Standards

Depot	Standard	Percent of state-to-state combinations where 500-mile criteria is less than, equal to, or better than DTMR transit time standards			Range of improvement using the 500-mile criteria	Average improvement using the 500-mile criteria
		Less	Equal	Better		
DDRV	DTMR	13	60	27	1 – 2 days	1.2 days
DDSP	DTMR	0	59	41	1 – 2 days	1.4 days
Average	—	6.5	59.5	34	1 – 2 days	1.3 days

Table B-3.
500 Miles Per Day vs. Truckload Standards — DDRV

State	Reference point[a]	Miles[b]	500 miles per day[c]	DTMR standard		GT standard	
				Days	Difference	Days	Difference
AL	Mobile	858	2	2	–	4	2
AR	Fort Smith	1,080	3	3	–	4	1
AZ	Yuma	2,425	5	6	1	6	1
CA	Oakland	2,880	6	8	2	7	1
CO	Fort Carson	1,664	4	5	1	5	1
CT	New London	456	1	2	1	4	3
DC	District of Columbia	107	1	1	–	4	3
DE	Dover AFB	205	1	1	–	4	3
FL	Holmstead AFB	977	2	2	–	4	2
GA	Moody AFB	633	2	2	–	4	2
IA	Sioux City	1,277	3	3	–	4	1
ID	Mountain Home AFB	2,415	5	6	1	7	2
IL	Scott AFB	827	2	2	–	4	2
IN	Indianapolis	607	2	2	–	4	2
KS	Fort Riley	1,202	3	3	–	4	1
KY	Fort Campbell	636	2	1	(– 1)	4	2
LA	Schreveport	1,115	3	3	–	4	1
MA	Boston	575	2	2	–	4	2
MD	Aberdeen PG	172	1	1	–	4	3
ME	Loring AFB	958	2	2	–	4	2
MI	Marquette	1,050	3	2	(– 1)	5	2
MN	East Grand Forks	1,512	4	3	(– 1)	5	1
MO	Kansas City	1,057	3	3	–	4	1
MS	Keesler AFB	926	2	2	–	4	2
MT	Malmstrom AFB	2,167	5	6	1	7	2
NC	Camp Lejeune	236	1	1	–	4	3
ND	Minot AFB	1,710	4	4	–	7	3
NE	Offutt AFB	1,262	3	4	1	6	3
NH	Portsmouth NS	598	2	2	–	4	2
NJ	Bayonne	324	1	1	–	4	3
NM	Holloman AFB	2,073	5	5	–	7	2

Note: AFB = Air Force Base; PG = Proving Ground; NS = Naval Station; MCB = Marine Corps Base.

[a] Selected distances reflect most distant major military installation or population center.

[b] Mileage derived from Army Regulation 55-60, Official Table of Distances.

[c] Rounded.

Table B-3.
500 Miles Per Day vs. Truckload Standards — DDRV (Continued)

State	Reference point[a]	Miles[b]	500 miles per day[c]	DTMR standard		GT standard	
				Days	Difference	Days	Difference
NV	Reno	2,666	6	7	1	7	1
NY	Plattsburgh	627	2	2	–	4	2
OH	Wright-Patterson AFB	560	2	1	(-1)	4	2
OK	Fort Sill	1,347	3	4	1	4	1
OR	Portland	2,870	6	8	2	7	1
PA	Pittsburgh	344	1	1	–	4	3
RI	Providence	507	2	2	–	4	2
SC	Parris Island MCB	464	1	1	–	4	3
SD	Rapid City	1,696	4	4	–	7	3
TN	Memphis	803	2	1	(-1)	4	2
TX	Fort Bliss	1,919	4	4	–	6	2
UT	Hill AFB	2,160	5	6	1	7	2
VA	Virginia[d]	500	1	–	–	4	3
VT	Burlington	634	2	2	–	4	2
WA	Fort Lewis	2,823	6	8	2	7	1
WI	Fort McCoy	1,040	3	2	(-1)	5	2
WV	Charleston	405	1	1	–	4	3
WY	Cheyenne	1,707	4	5	1	7	3
Pairs improved/days improved/range of improvement				13/16	1 – 2 days	49/99	1 – 3 days

Note: AFB = Air Force Base; PG = Proving Ground; NS = Naval Station; MCB = Marine Corps Base.

[a] Selected distances reflect most distant major military installation or population center.

[b] Mileage derived from Army Regulation 55-60, Official Table of Distances.

[c] Rounded.

[d] From DDRV to anywhere in Virginia.

Table B-4.
500 Miles Per Day vs. Truckload Standards — DDSP

State	Reference point[a]	Miles[b]	500 miles per day[c]	DTMR standard		GT standard	
				Days	Difference	Days	Difference
AL	Mobile	1,028	3	3	–	3	–
AR	Fort Smith	1,196	3	3	–	3	–
AZ	Yuma	2,459	5	7	2	7	2
CA	Oakland	2,760	6	8	2	7	1
CO	Fort Carson	1,627	4	6	2	6	2
CT	New London	350	1	1	–	1	–
DC	District of Columbia	137	1	1	–	1	–
DE	Dover AFB	161	1	1	–	1	–
FL	Holmstead AFB	1,179	3	3	–	3	–
GA	Moody AFB	850	2	2	–	2	–
IA	Sioux City	1,098	3	4	1	4	1
ID	Mountain Home AFB	2,281	5	7	2	7	2
IL	Scott AFB	787	2	2	–	2	–
IN	Indianapolis	570	2	2	–	2	–
KS	Fort Riley	1,162	3	4	1	4	1
KY	Fort Campbell	849	2	2	–	2	–
LA	Schreveport	1,304	3	4	1	4	1
MA	Boston	420	1	2	1	1	–
MD	Andrews AFB	126	1	1	–	1	–
ME	Loring AFB	859	2	2	–	2	–
MI	Marquette	944	2	2	–	2	–
MN	East Grand Forks	1,345	3	3	–	3	–
MO	Kansas City	1,067	3	3	–	3	–
MS	Keesler AFB	1,191	3	3	–	3	–
MT	Malmstrom AFB	2,009	5	7	2	7	2
NC	Camp Lejeune	463	1	1	–	1	–
ND	Minot AFB	1,558	4	5	1	5	1
NE	Offutt AFB	1,089	3	4	1	4	1
NH	Portsmouth NS	453	1	2	1	1	–
NJ	Bayonne	196	1	1	–	1	–
NM	Holloman AFB	2,100	5	6	1	6	1

Note: AFB = Air Force Base; PG = Proving Ground; NS = Naval Station; MCB = Marine Corps Base.

[a] Selected distances reflect most distant major military installation or population center.

[b] Mileage derived from Army Regulation 55-60, Official Table of Distances.

[c] Rounded.

Table B-4.
500 Miles Per Day vs. Truckload Standards — DDSP (Continued)

State	Reference point[a]	Miles[b]	500 miles per day[c]	DTMR standard		GT standard	
				Days	Difference	Days	Difference
NV	Reno	2,675	6	7	1	7	1
NY	Plattsburgh	349	1	1	–	1	–
OH	Wright-Patterson AFB	423	1	1	–	1	–
OK	Fort Sill	1,372	3	4	1	4	1
OR	Portland	2,780	6	8	2	7	1
PA	Pennsylvania[d]	500	1	–	–	1	–
RI	Providence	380	1	1	–	1	–
SC	Parris Island MCB	680	2	2	–	2	–
SD	Ellsworth AFB	1,530	4	5	1	5	1
TN	Memphis	972	2	2	–	3	1
TX	Fort Bliss	1,963	4	4	–	4	–
UT	Hill AFB	2,016	5	6	1	6	1
VA	Norfolk NS	309	1	1	–	1	–
VT	Burlington	400	1	1	–	1	–
WA	Fort Lewis	2,685	6	8	2	7	1
WI	Fort McCoy	946	2	2	–	2	–
WV	Charleston	368	1	1	–	1	–
WY	Cheyenne	1,624	4	5	1	7	3
Pairs improved/days improvement/range of improvement				20/27	1 – 2 days	19/25	1 – 3 days

Note: AFB = Air Force Base; PG = Proving Ground; NS = Naval Station; MCB = Marine Corps Base.

[a] Selected distances reflect most distant major military installation or population center.

[b] Mileage derived from Army Regulation 55-60, Official Table of Distances.

[c] Rounded.

[d] From DDSP to anywhere in Pennsylvania.

APPENDIX C

Improving Transit Time Standards

INTRODUCTION

This appendix presents an approach that the Department of Defense (DoD) could use to update transit time standards in either guaranteed traffic (GT) agreements or the Defense Transportation Management Regulation (DTMR). The approach consists primarily of a survey of current standards and an assessment of carrier capability. That survey and assessment should yield the best state-to-state pair transit times for use in new GT agreements and for updating the DTMR.

When assessing the capability of less-than-truckload (LTL) carriers, care must be taken to determine when actual transit times are not fully captured in published carrier standards. Challenging LTL carriers to exceed existing carrier or DoD standards is done best at the individual depot level, and only then should those new standards be adopted as DTMR standards. Furthermore, the Military Traffic Management Command and Defense Logistics Agency should be encouraged to maintain a dialogue with carriers so they are aware of changes that impact transit times (such as system-wide improvements of carriers or major routing changes), and they can challenge the carriers to meet improved GT standards for any given state-to-state pair in anticipation of an improvement in published carrier standards.

For truckload service, we believe a 500-mile per day standard is appropriate in most cases, and it should only be reduced when particular state-to-state pairs experience consistent traffic congestion, which prevents normal 500-miles per day service.

In assessing the potential for improving transit time standards, we compared the transit times in two GT agreements, the DTMR, published LTL carrier standards, and application of the 500-miles per day criteria for truckload shipments. One of the two GT agreements, from Defense Depot, Susquehanna, Pennsylvania (DDSP), had relatively stringent transit time standards, while the other, from Defense Depot, Richmond Virginia (DDRV), had less demanding standards. The results of that comparison, which are summarized in the following section, illustrate that LTL carriers often move DoD cargo through their systems faster than GT standards require, thereby reducing the potential impact of improved standards. However, some truckload carriers sometimes delay pickup, but still meet GT transit times, which indicates some potential for improvement by setting more stringent standards.

These findings reinforce the notion that improvements in transit time standards do not necessarily translate into shorter transit times; other factors also need to be taken into consideration.

SAMPLE RESULTS

Comparison of Improved Transit Times with GT Agreements

To illustrate the potential impact of the approach we propose for updating DoD's transit time standards, we compared the improved transit times with those in DDSP's GT agreements. Although DDSP uses fairly stringent transit time standards, we found that more than one-third of its standards could be improved. A similar comparison with DDRV's GT agreements was more significant — nearly all the standards in the GT agreement could be improved. These results are summarized in Table C-1.

Table C-1.
Potential Improvement in GT Transit Time Standards

GT agreement	Mode	Number of state-to-state pairs that could be improved[a]	Percent of state-to-state pairs that could be improved[a]	Range of improvement	Average improvement
DDSP	TL	19	39	1 – 3 days	1.4 days
	LTL	16	33	1 – 3 days	1.8 days
DDRV	TL	49	100	1 – 3 days	2.2 days
	LTL	45	92	1 – 4 days	1.8 days

[a] Forty-seven state-to-state pairs, District of Columbia, and intrastate. TL = truckload.

Comparison of Improved Transit Times with DTMR Standards

A comparison of the sample transit times with those of the DTMR shows that DoD could improve its transit time standards by adopting the fastest transit times available. These improvements are summarized in Table C-2, while Tables C-3 through C-6 provide supporting details. (Note, the current DTMR standards do not address intrastate movements, while GT agreements do.)

Table C-2.
Potential Improvement in DTMR Transit Time Standards

State	Mode	Number of state-to-state pairs better than DTMR[a]	Percent of state-to-state pairs better than DTMR[a]	Range of improvement	Average improvement
Pennsylvania	TL	20	42	1 – 2 days	1.4 days
	LTL	22	46	1 – 3 days	2.3 days
Virginia	TL	14	29	1 – 2 days	1.2 days
	LTL	21	44	1 – 3 days	1.7 days

[a] Forty-seven state-to-state pairs and District of Columbia.

Table C-3.
Most Advantageous Truckload Transit Time Standards Selection Matrix (DDRV)

State	DTMR	GT	500 miles per day[a]	Days better than DTMR	Days better than GT
AL	2	4	2	–	2
AZ	6	6	5	1	1
AR	3	4	3	–	1
CA	8	7	6	2	1
CO	5	5	4	1	1
CT	2	4	1	1	3
DE	1	4	1	–	3
FL	2	4	2	–	2
GA	2	4	2	–	2
ID	6	7	5	1	2
IL	2	4	2	–	2
IN	2	4	2	–	2
IA	3	4	3	–	1
KS	3	4	3	–	1
KY	1	4	2	–	3
LA	3	4	3	–	1
ME	2	4	2	–	2
MD	1	4	1	–	3
MA	2	4	2	–	2
MI	2	5	3	–	3
MN	3	5	4	–	2
MS	2	4	2	–	2

[a] Rounded to next whole day.

Table C-3.
Most Advantageous Truckload Transit Time Standards Selection Matrix (DDRV) (Continued)

State	DTMR	GT	500 miles per day[a]	Days better than DTMR	Days better than GT
MO	3	4	3	–	1
MT	6	7	5	1	2
NE	4	6	3	1	3
NV	7	7	6	1	1
NH	2	4	2	–	2
NJ	1	4	1	–	3
NM	5	7	5	–	2
NY	2	4	2	–	2
NC	1	4	1	–	3
ND	4	7	4	–	3
OH	1	4	2	–	3
OK	4	4	3	1	1
OR	8	7	6	2	1
PA	1	4	1	–	3
RI	2	4	2	–	2
SC	1	4	1	–	3
SD	4	7	4	–	3
TN	1	4	2	–	3
TX	4	6	4	–	2
UT	6	7	5	1	2
VT	2	4	2	–	2
VA	(1)[b]	4	1	–	3
WA	8	7	6	2	1
WV	1	4	1	–	3
WI	2	5	3	–	3
WY	5	7	4	1	3
DC	1	4	1	–	3
Number of pairs improved/days improvement				13/16	49/105

[a] Rounded to next whole day.

[b] DTMR does not provide intrastate times; should be no greater than the border states, which are all one day.

Table C-4.
Most Advantageous LTL Transit Time Standards Selection Matrix (DDRV)

State	DTMR	GT	Best carrier time[a]	Days better than DTMR	Days better than GT
AL	4	5	4	–	1
AZ	9	8	7	2	1
AR	5	5	5	–	–
CA	11	9	9	2	–
CO	8	8	7	1	1
CT	4	5	3	1	2
DE	3	5	4	–	2
FL	4	5	4	–	1
GA	4	6	4	–	2
ID	9	9	7	2	2
IL	4	5	4	–	1
IN	4	5	4	–	1
IA	5	6	5	–	1
KS	5	6	5	–	1
KY	3	6	4	–	3
LA	5	6	5	–	1
ME	4	5	4	–	1
MD	3	5	3	–	2
MA	4	5	3	1	2
MI	4	6	4	–	2
MN	5	7	5	–	2
MS	4	5	4	–	1
MO	5	6	5	–	1
MT	9	9	7	2	2
NE	7	7	5	2	2
NV	10	9	7	3	2
NH	4	5	3	1	2
NJ	3	5	3	–	2
NM	8	9	7	1	2
NY	4	5	3	1	2
NC	3	5	4	–	2
ND	7	9	5	2	4
OH	3	5	4	–	2
OK	7	7	5	2	2
OR	11	9	9	2	–

[a] Average weekend days considered, rounded to the next whole day.

Table C-4.
Most Advantageous LTL Transit Time Standards Selection Matrix (DDRV) (Continued)

State	DTMR	GT	Best carrier time[a]	Days better than DTMR	Days better than GT
PA	3	5	3	–	2
RI	4	4	3	1	1
SC	3	5	4	–	2
SD	7	9	5	2	4
TN	3	6	4	–	3
TX	7	7	5	2	2
UT	9	9	7	2	2
VT	4	5	4	–	1
VA	(3)[b]	4	4	–	1
WA	11	9	9	2	–
WV	3	5	4	–	2
WI	4	6	4	–	2
WY	8	9	7	1	2
DC	3	5	4	–	2
Number of pairs improved/days improvement				21/35	45/81

[a] Average weekend days considered, rounded to the next whole day.

[b] DTMR does not provide intrastate times; should be no greater than border states, which are all three days.

Table C-5.
Most Advantageous Truckload Transit Time Standards Selection Matrix (DDSP)

State	DTMR	GT	500 miles per day[a]	Days better than DTMR	Days better than GT
AL	3	3	3	–	–
AZ	7	7	5	2	2
AR	3	3	3	–	–
CA	8	7	6	2	1
CO	6	6	4	2	2
CT	1	1	1	–	–
DE	1	1	1	–	–
FL	3	3	3	–	–
GA	2	2	2	–	–
ID	7	7	5	2	2
IL	2	2	2	–	–
IN	2	2	2	–	–
IA	4	4	3	1	1
KS	4	4	3	1	1
KY	2	2	2	–	–
LA	4	4	3	1	1
ME	2	2	2	–	–
MD	1	1	1	–	–
MA	2	1	1	1	–
MI	2	2	2	–	–
MN	3	3	3	–	–
MS	3	3	3	–	–
MO	3	3	3	–	–
MT	7	7	5	2	2
NE	4	4	3	1	1
NV	7	7	5	2	2
NH	2	1	1	1	–
NJ	1	1	1	–	–
NM	6	6	5	1	1
NY	1	1	1	–	–
NC	1	1	1	–	–
ND	5	5	4	1	1
OH	1	1	1	–	–
OK	4	4	3	1	1
OR	8	7	6	2	1

[a] Rounded to the next whole day.

Table C-5.
Most Advantageous Truckload Transit Time Standards Selection Matrix (DDSP) (Continued)

State	DTMR	GT	500 miles per day[a]	Days better than DTMR	Days better than GT
PA	(1)[b]	1	1	–	–
RI	1	1	1	–	–
SC	2	2	2	–	–
SD	5	5	4	1	1
TN	2	3	2	–	1
TX	4	4	4	–	–
UT	6	6	5	1	1
VT	1	1	1	–	–
VA	1	1	1	–	–
WA	8	7	6	2	1
WV	1	1	1	–	–
WI	2	2	2	–	–
WY	5	7	4	1	3
DC	1	1	1	–	–
Number of pairs improved/days improvement				20/28	19/26

[a] Rounded to the next whole day.

[b] DTMR does not provide intrastate times; should be no greater than the border states, which are all one day.

Table C-6.
Most Advantageous LTL Transit Time Standards Selection Matrix (DDSP)

State	DTMR	GT	Best carrier time[a]	Days better than DTMR	Days better than GT
AL	5	5	5	–	–
AZ	10	9	7	3	2
AR	5	5	5	–	–
CA	11	9	9	2	–
CO	9	8	7	2	1
CT	3	3	3	–	–
DE	3	3	4	–	–
FL	5	5	5	–	–
GA	4	4	4	–	–
ID	10	8	7	3	1
IL	4	4	4	–	–
IN	4	4	4	–	–
IA	7	7	5	2	2
KS	7	7	5	2	2
KY	4	4	4	–	–
LA	7	5	5	2	–
ME	4	4	4	–	–
MD	3	3	3	–	–
MA	4	4	3	1	1
MI	4	4	4	–	–
MN	5	5	5	–	–
MS	5	5	5	–	–
MO	5	4	5	1	–
MT	10	8	7	3	2
NE	7	7	5	2	2
NV	10	9	7	3	2
NH	4	4	4	–	–
NJ	3	3	3	–	–
NM	9	9	7	2	2
NY	3	3	3	–	–
NC	3	3	4	–	–
ND	8	8	5	3	3
OH	3	3	3	–	–
OK	7	7	5	2	2
OR	11	7	9	3	–

[a] Average weekend days considered, rounded to the next whole day.

Table C-6.
Most Advantageous LTL Transit Time Standards Selection Matrix (DDSP) (Continued)

State	DTMR	GT	Best carrier time[a]	Days better than DTMR	Days better than GT
PA	(3)[b]	2	4	1	–
RI	3	3	3	–	–
SC	4	4	4	–	–
SD	9	8	5	4	3
TN	4	4	4	–	–
TX	7	7	5	2	2
UT	9	8	7	2	1
VT	3	3	4	–	–
VA	3	3	3	–	–
WA	11	7	9	4	–
WV	3	3	4	–	–
WI	4	4	4	–	–
WY	8	8	7	1	1
DC	3	3	3	–	–
Number of pairs improved/days improvement				22/50	16/29

[a] Average weekend days considered, rounded to the next whole day.

[b] DTMR does not provide intrastate times; should be no greater than border states, which are all three days.

APPENDIX D

Example of Best-Value Computation

As noted in the body of this report, we believe that a best-value approach offers the Department of Defense (DoD) an excellent opportunity to improve the service it receives through guaranteed traffic (GT) agreements. The objective of this approach is to receive competitively priced transportation services along with the most competitive transit times that carriers can provide. In order for the Military Traffic Management Command (MTMC) to evaluate the tenders submitted in response to best-value solicitations, it should use a best-value index. The index is simply a best-value score for each geographical region by mode. The carrier with the highest score for each region and mode is selected as the primary carrier. The carriers with the second- and third-highest scores are selected as the first and second alternates. In this appendix, we explain the use of this index and illustrate its application using tenders from six hypothetical carriers (A, B, C, D, E, and F) to a GT solicitation covering less-than-truckload (LTL) traffic from Defense Depot, Susquehanna, Pennsylvania (DDSP), to the South Central Region (Kansas, New Mexico, Texas, Oklahoma).

CONSTRUCTING A BEST-VALUE INDEX

A best-value index involves the use of a mathematical formula to analyze carrier tenders and to select the best-value carriers. The index requires the scoring (assigned value) of the competitive portions (the variables) of a carrier's bid and multiplying each by a weighted value (W) that reflects the overall contribution of each variable to best value. A best-value formula is shown below:

Best-value score = W_1 (assigned value, variable 1) + W_2(assigned value, variable two).

Selecting the Variables

The variables should represent the factors that are of most importance in making a particular decision. The variables should also be measurable to facilitate evaluation. As noted in the body of the report, we recommend DoD use cost and transit times as the variables for computing the best-value score. Those variables are not only important in selecting the best carrier, but they encourage the carriers to offer their best rates and transit times. With those variables, the best-value score equation then becomes:

Best-value score = W_1 (assigned cost value) + W_2(assigned transit time value).

Weighting the Cost and Transit Time Variables

The selection of a weighted value (W_1 and W_2) for each variable is critical, not only to ensure the appropriate balance and the attainment of best value, but also an orderly evaluation of carrier tenders. The weighted values represent the relative value the two variables contribute to overall best value. The Defense Logistics Agency, in consultation with MTMC, should assign the relative value of each variable as a percentage, with the total being 100. An expert opinion process could be used to select the weighted values. In our example below, the weighted value of cost is 55 percent and the weighted value of transit time is 45 percent, which then yields a best-value equation as follows:

Best-value score = 0.55 (assigned cost value) + 0.45 (assigned transit time value).

Assigning Cost Value

We recommend that the cost be the estimated total cost of the projected traffic for each region by mode, computed at the tendered rates the carriers provide on MT Form 364-R, Guaranteed Traffic Rate Sheets. In our example, a hypothetical total estimated cost ranging from $310,000 to $345,000 for the entire region was randomly assigned to each carrier. An assigned cost value for each bid is then determined by dividing the low-cost bid by each of the other bids and multiplying the results by 100. With the low-cost carrier being assigned 100 points, all other carriers would be assigned fewer than 100 points. Table D-1 depicts these steps. Carrier D is the low-cost carrier and is awarded 100 points. Carrier F, which bid a total cost of $320,000, or $10,000 more than Carrier D, is the second low-cost carrier and has a cost value of 96.88.

Table D-1.
Example — Assigned Cost Value Computation

Carrier	Estimated tender cost ($)	Cost value
A	345,000	310,000 / 345,000 = 89.86
B	325,000	310,000 / 325,000 = 95.38
C	335,000	310,000 / 335,000 = 92.54
D	310,000	310,000 / 310,000 = 100.00
E	330,000	310,000 / 330,000 = 93.94
F	320,000	310,000 / 320,000 = 96.88

Assigning Transit Time Values

In our example, transit time is expressed as the average transit time in days for the region tendered. It is computed by adding the transit time standard from DDSP to each state and dividing by the total number of states in the region. For the purpose of this example, we used the South Central Region with its four states (Kansas, New Mexico, Texas, Oklahoma) and the actual transit time standards of four carriers (adjusted for average weekend days) and the current GT and DTMR standards for the other two carriers. The transit times were randomly assigned to the six carriers. In a similar manner, we assigned a transit time value for each carrier by dividing the shortest transit time by each of the other transit times and multiplying the results by 100. Again, the carrier with the shortest transit time is assigned 100 points; all other carriers are assigned fewer than 100 points. Table D-2 depicts these calculations. Carrier B has the best transit times and is awarded 100 points. Carrier A has the second best transit times and has a transit time value of 88 points.

Table D-2.
Example — Assigned Transit Time Value Computation (South Central Region)

Carrier	Transit time standards (days)				Average transit time	Transit time value
	KS	NM	TX	OK		
A	5	8	7	5	6.25	5.50 / 6.25 = 88.00
B	5	7	5	5	5.50	5.50 / 5.50 = 100.00
C	7	9	7	7	7.50	5.50 / 7.50 = 73.33
D	7	7	7	7	7.00	5.50 / 7.00 = 78.57
E	7	9	7	7	7.50	5.50 / 7.50 = 73.33
F	7	7	7	7	7.00	5.50 / 7.00 = 78.57

Note: The tendered transit time standards are from DDSP to the individual states.

Best-Value Indexing

The best-value score equation is then used to compute the best-value score for each carrier, as shown in Table D-3.

Table D-3.
Example — Computing Best-Value Scores

Carrier	W_1(assigned cost value) + W_2(assigned transit time value) = best-value score	Best-value rank
A	0.55 X 89.86 + 0.45 X 88.00 = 89.02	3
B	0.55 X 95.38 + 0.45 X 100.00 = 97.46	1
C	0.55 X 92.54 + 0.45 X 73.33 = 83.90	6
D	0.55 X 100.00 + 0.45 X 78.57 = 90.37	2
E	0.55 X 93.94 + 0.45 X 73.33 = 84.67	5
F	0.55 X 96.88 + 0.45 X 78.57 = 88.64	4

CARRIER SELECTION

The carrier with the highest best-value score is designated as the primary carrier, while the carriers with the second- and third-highest scores are the first and second alternates, respectively. Table D-4 illustrates that Carrier B is designated the primary carrier for LTL shipments from DDSP to the South Central Region, even though it ranked third among the six carriers in terms of cost.

Table D-4.
Example — Best-Value Carrier Ranking

Rank	Carrier	Cost rank	Transit time rank
1 (Primary carrier)	B	3	1
2 (1st alternate)	D	1	3
3 (2nd alternate)	A	6	2
4	F	2	3
5	E	4	5
6	C	5	5

APPENDIX E

Best-Value GT Pilot Test — Implementation Plan

INTRODUCTION

This appendix provides an implementation plan for the Department of Defense (DoD) to conduct a pilot test of the best-value concept we propose for awarding guaranteed traffic (GT) agreements.

The purpose of such a pilot test is to provide a structured approach for developing efficient, legally supportable changes to business practice; notifying and explaining the concepts of using best value to award GT agreements to the carrier industry; and evaluating the efficiency and effectiveness of a best-value GT agreement solicitation. The implementation plan includes a compendium of tasks and assigns responsibility for completing each. In recognition of the dynamics associated with such a challenge, our estimates of the times required to complete the individual tasks are very judgmental. The timeline shown in Figure E-1, which appears at the end of this appendix, summarizes the implementation plan. The details of the implementation plan follow.

IMPLEMENTATION PLAN

1.0 Initiate Test

This task entails the preparation and forwarding of a memorandum by the test proponent, the Assistant Deputy Under Secretary of Defense for Transportation Policy (ADUSD-TP). That memorandum should designate the United States Transportation Command (USTRANSCOM) as the lead agency for conducting the pilot test and the Defense Logistics Agency (DLA) as the primary support agency.

2.0 Appoint Test Director

In this task, USTRANSCOM directs the Military Traffic Management Command (MTMC) to appoint the test director. DLA is the primary support agency because it is DoD's predominant user of the GT program. MTMC's test director is responsible for the development of an operational concept for best-value GT solicitations, as well as conducting and evaluating the pilot test.

3.0 Prepare Test Plan

The purpose of this task is for MTMC, in coordination with DLA, to plan the test.

3.1 Hold Initial Organizational Meeting

This subtask consists of a meeting of test participants from MTMC and DLA. In this meeting, the implementation plan for the pilot test should be discussed, and the characteristics of the GT agreement that will be used as a basis for the test should be defined. This appendix can facilitate the meeting and serve as a basis for developing the plan.

3.2 Select a GT Agreement for the Test

In this subtask, DLA should nominate the specific GT agreement for the pilot test. The agreement selected should be due for re-solicitation and have an established history of meeting DLA's transportation requirements. A backup GT agreement should be identified in case the development and approval of the test concept is delayed.

3.3 Finalize Test Plan

In this subtask, MTMC should finalize the test plan by backward planning from the desired implementation date of the GT agreement, to ensure a timely implementation.

4.0 Develop an Operational Concept

This task is the most critical in the implementation plan. It defines the parameters of a best-value GT solicitation through the development of business processes and methods of tender evaluation and carrier selection. It also builds consensus among the test participants.

4.1 Define the Business Process

The current GT business process is exempt from the Federal Acquisition Regulation (FAR). Two major issues need to be resolved in amending the

business process — the method of solicitation and the administration of the bid evaluation. These issues are described in more detail below.

- The FAR-exempt sealed bid process is simple and administratively effective; an amended solicitation process should seek similar efficiencies.

- MTMC's Guaranteed Traffic Standard Tender Processing System (GT*STEP) analyzes tendered rates to calculate expected cost over the life of the GT agreement. The lowest cost carrier for each region is awarded the traffic. A best-value GT solicitation would be more complex. However, GT*STEP would still be important for the complex task of computing cost, but another process needs to be developed that captures carrier transit time standards and computes average transit time. Ultimately, this requirement should be integrated into GT*STEP if a best-value GT process is adopted.

4.2 Prepare Best-Value Index

This subtask calls for the development of a mathematical index that can be used to analyze best-value bids and select carriers. An example of such an index is provided in Appendix D of this report.

4.3 Obtain Legal Review and Approval

Since changes in contracting and business practice are complex and involve potential legal issues, the MTMC Staff Judge Advocate should be deeply involved in the initial planning. This involvement should include a formal review and approval of the business and award process prior to the initiation of the remaining tasks.

4.4 Prepare Concept Briefing

This subtask calls for the development of a briefing on the legally approved operational concept for presentation to the test director for concept approval.

4.5 Obtain Approval for Concept Briefings

In this subtask, concept briefings should be given to DLA, MTMC, and USTRANSCOM representatives seeking their input and concurrence. When completed, the recommended concept should be briefed to the ADUSD-TP.

4.6 Amend Operational Concept

In this subtask, the operational concept should be amended to integrate guidance provided by the ADUSD-TP.

5.0 Inform Carrier Industry of the Best-Value GT Solicitation Test

A test of major changes to the way DoD procures transportation services mandates an early and clear explanation to the carrier industry of the intent, objectives, and procedures for the test.

5.1 Announce Pilot Test and Industry Briefing

In this subtask, an announcement of the pilot test is prepared and released to the carrier industry. Adequate time should be provided the industry to ensure substantial carrier attendance at the proposed briefing.

5.2 Prepare Industry Briefing

This subtask calls for the preparation of the carrier industry briefing.

5.3 Brief Carrier Industry Representatives

In this subtask, the briefing is given to the carrier industry. Afterwards, the pilot test GT solicitation is released.

6.0 Prepare GT Solicitation

After receiving concept approval, MTMC should initiate the development of the amended GT solicitation.

6.1 Amend GT Solicitation Format

In this subtask, MTMC should amend the current GT solicitation format to include the changes proposed in the approved concept.

6.2 Obtain Legal Review and Approval of Format Changes

The precise wording in the best-value GT solicitation should be reviewed and approved by the MTMC Staff Judge Advocate to ensure consistency with its previous legal approval of the concept. This review should be accomplished as soon as possible to ensure timely resolution of all legal issues.

6.3 Define Transportation Requirements

In this subtask, the depot in conjunction with DLA should estimate traffic volume requirements. This information is necessary for the preparation of MT Form 364-R, Guaranteed Traffic Rate Sheets, which is part of the solicitation. It also serves as a basis for calculating estimated total cost, which is one of the key variables used for carrier selection.

6.4 Prepare and Staff Final Solicitation

In this subtask, the depot's transportation requirements should be integrated into the approved format. The draft solicitation is then staffed in accordance with current policy.

6.5 Print and Release Solicitation

In this subtask, the procedures for printing and releasing the best-value GT solicitation are established in accordance with current policy.

7.0 Prepare and Submit Carrier Tenders

Because of the amended and more detailed requirements of the test solicitation, MTMC should add two weeks to the normal five-week carrier submission timeframe. This extra time will allow carriers to prepare their tenders.

8.0 Open Bids

The current requirement for a public bid opening may not be necessary because of the business process changes. This subtask provides for such a bid opening if one is required.

9.0 Allocate Traffic

The allocation of traffic involves the evaluation of tenders, the selection of winning carriers, and the awarding of traffic to carriers.

9.1 Evaluate Carrier Tenders

In this subtask, carrier tenders are evaluated using the business processes and best-value index developed in Subtask 4.2 above. Traffic should be allocated to carriers offering the best value to DoD, according to their best-value indices.

9.2 Prepare and Release Award Memorandum

In accordance with normal procedures, a memorandum to the appropriate MTMC Area Command should be prepared and released announcing the selection of primary and alternate carriers. Copies of this memorandum should be provided to DLA, the depot, and responding carriers.

10.0 Establish GT Agreement Effective Date

In this subtask, the date established in the original solicitation should be designated the GT agreement effective date.

11.0 Evaluate Test

This task calls for a comprehensive evaluation of the business process and the effectiveness of the pilot test. The majority of the evaluation will occur between the announcement to the carrier industry (Task 5.0) and the allocation of traffic (Task 9.0). However, final conclusions and recommendations should be withheld until the depot and carriers have had ample time to work together under the terms of the new agreement.

11.1 Evaluate Preliminary Test

This subtask consists of two parts. The first part addresses the effectiveness of the amended business process and the best-value index developed for the pilot test. The second part evaluates the tenders submitted by the carriers to determine the level of participation and the impact on transit time standards and cost.

11.1.1 Evaluate Business Process

The amended business processes developed for the pilot test should be evaluated. The evaluation should focus on determining how well the amended processes worked, and at what expenditure of effort when compared to the normal solicitation process. A successful business process would be efficient and require no further amendments. A partially successful business process would be more costly to administer and require some amendments to resolve the underlying problems. Recommendations for these improvements should be provided. An unsuccessful business process would result in a significant increase in cost and manpower.

11.1.2 Assess Tenders

This evaluation should focus on the tenders to determine if the goal of best value has been attained as defined by transit time standards and cost. Such an evaluation should provide insight into the level of carrier acceptance of best-value solicitations, as well as the impact on cost and transit time standards. It should examine four areas, which are discussed below:

- *Carrier acceptance.* Compare the number of carriers submitting tenders to historical levels for GT agreements. The innovative best-value process may tend to restrict tenders to more efficient carriers who feel they deliver faster transit times without significantly increasing costs. It is important to determine if an adequate number of carriers submitted tenders to ensure a competitive solicitation environment.

- *Cost.* This area should be assessed by determining the difference in rates between those in the old GT agreement and the new agreement, and comparing the differences with the rate changes experienced in other recent lowest cost GT agreements. This comparison should provide insight into the costs associated with the new solicitation process.

- *Transit time standards.* This area should be assessed by comparing the transit times of the successful bidders with the revised standards in the Defense Traffic Management Regulation, as recommended in the body of this report.

- *Effectiveness of best-value index.* This area should be assessed by determining whether the tendered rates and transit times are reasonable and balanced.

A fully successful solicitation should provide improved transit time standards to the DoD, at equal or reduced cost of transportation service. A partially successful solicitation should provide improved transit time with a minimal increase in cost, which could be acceptable. A solicitation could also be considered partially successful if the best-value index was faulty and capable of being corrected. Recommendations for amending the index should be provided. An unsuccessful solicitation should be one that results in unacceptably high costs or lengthy transit times.

11.2 Prepare Interim Report

A draft interim report should be prepared and presented to USTRANSCOM.

11.2.1 Prepare Draft Interim Report

In this subtask, interim findings, conclusions, and recommendations, based upon the preliminary test evaluation conducted above, should be compiled into a draft report.

11.2.2 Obtain Interim Report Briefing and Proponent Approval

In this subtask, the contents of the draft interim report should be briefed to DLA, MTMC, and USTRANSCOM seeking concurrence. If the contents are approved, a similar briefing should be given to the ADUSD-TP.

11.2.3 Finalize Interim Report

In this subtask, the interim report should be amended to incorporate guidance received during the briefings given in Subtask 11.2.2.

11.3 Evaluate Post-Award

In this subtask, the carrier's ability to execute the GT agreement should be evaluated, as well as the appropriateness of the interim report.

11.3.1 Evaluate Carrier Performance

This evaluation should examine the frequency and reasons for carriers being removed for unsatisfactory performance or voluntary cancellation of service. Those examinations should focus on the differences in frequency of removal or cancellation between the old and new GT agreements, and similar differences in other recent GT agreements. Carrier performance should be considered fully successfully if the rates of removal or cancellation are within historical parameters. Partially successful performance should be considered if abnormal rates of removal or cancellation can be attributed to unfamiliarity or confusion with the new best-value solicitation process and could be eliminated with a more informative solicitation. Unsuccessful carrier performance should be considered if high rates of removal and cancellation occur, or if the expression of unwillingness of carriers to participate in subsequent best-value GT solicitations is significant.

11.3.2 Reexamine Interim Report

The interim report should be reexamined in light of the post-award evaluation of carrier performance.

11.4 Prepare Final Report

11.4.1 Prepare Draft Final Report

In this subtask, the findings, conclusions, and recommendations from the preliminary test evaluation, as amended by the results of the comparison with the post-award evaluation, should be compiled in a draft report.

11.4.2 Obtain Final Report Briefing and Proponent Approval

In this subtask, the contents of the draft final report should be briefed to DLA, MTMC, and USTRANSCOM, and then to the ADUSD-TP.

11.4.3 Publish Final Report

The final report should be amended, as required, and then published.

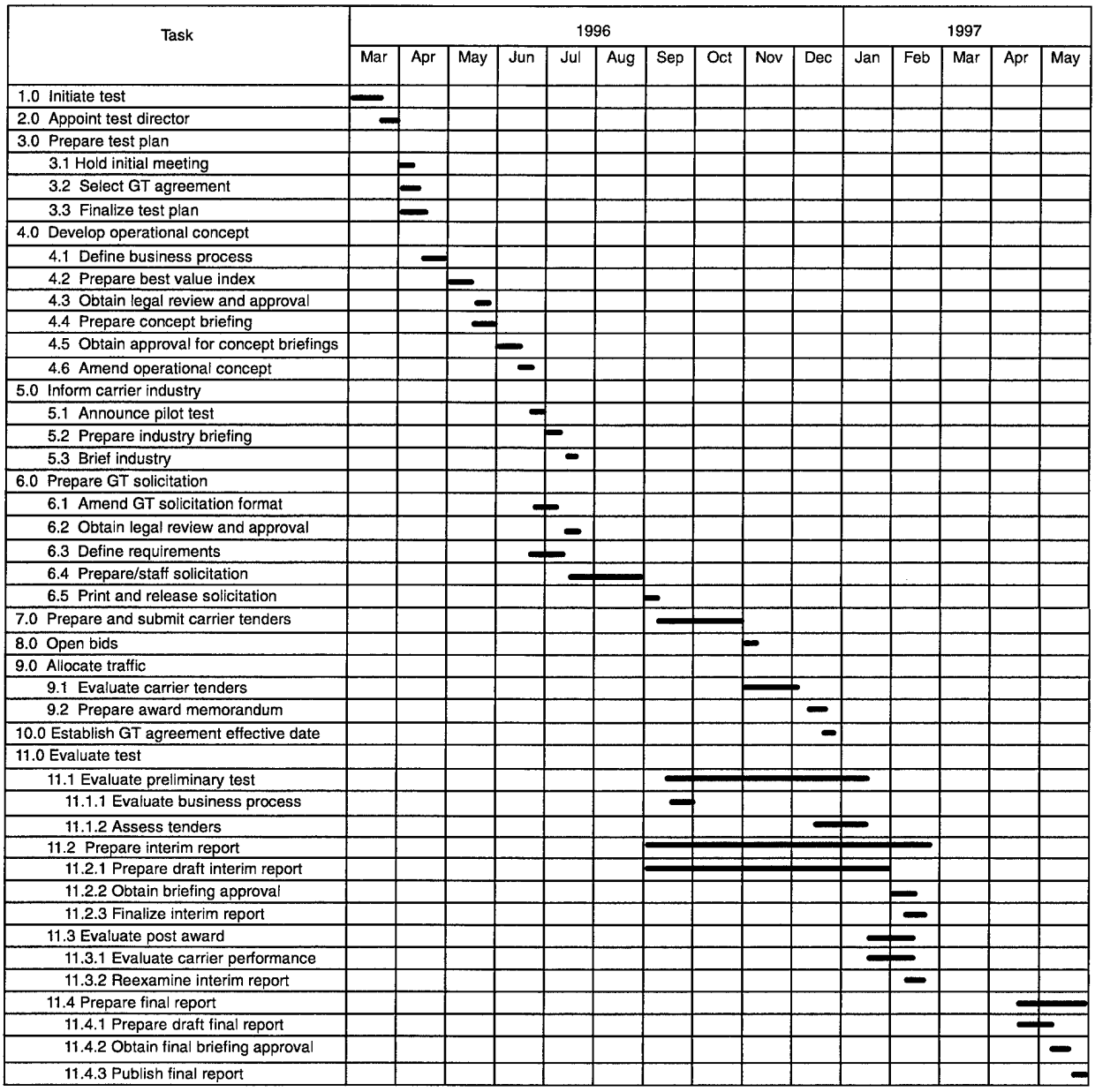


Figure E-1.
Implementation Plan: Best -Value Pilot Test

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13. ABSTRACT *(Maximum 200 words)*

The 1994 and 1995 editions of the *Department of Defense Logistics Strategic Plans*, directed the Department of Defense (DoD) to significantly reduce logistics response time (LRT). LRT is the time consumed by requisition submission; requisition processing at the inventory control point; requisition processing at the depot (picking, packing, and holding for transportation); transportation; and receipt processing. This report focuses on the transportation segment of LRT. It benchmarks the carrier industry's delivery standards against those contained in the Defense Traffic Management Regulation (DTMR) and in guaranteed traffic (GT) agreements at several Defense Logistics Agency (DLA) depots. We conclude that DoD standards need to be made more stringent to capture the full carrier industry capability and recommend a step-by-step process to improve DoD standards. We also recommend the use of a best-value, rather than low-cost, approach to continuously improve transit time standards in GT agreements. We further recommend conducting a pilot best-value test for awarding GT agreements. The report contains a plan for the pilot test.

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